

§Appl. No. 10/009,614  
Amdt. dated June 1, 2004  
Reply to Office Action of, January 29, 2004

**Listing of Claims:**

**Claim 1** (Previously Cancelled)

**Claim 2** (Currently Amended) Apparatus according to Claim 7 14, wherein the sample volume is between 0.05 and 30  $\mu$ l.

**Claim 3** (Currently Amended) Apparatus according to Claim 7 14, wherein the channel system contains at least two serial channel sections, each of which is delimited by fluidic connections.

**Claim 4** (Currently Amended) Apparatus according to Claim 7 14, wherein the channel system contains at least two parallel channel sections which are delimited independently of one another by fluidic connections.

**Claim 5** (Currently Amended) Apparatus according to Claim 7 14, wherein tightly sealing micropumps serve as fluidic connections.

**Claim 6** (Currently Amended) Apparatus according to Claim 7 14, wherein micromixers, valves and micropumps serve as fluidic connections.

**Claim 7** (Cancelled)

**Claim 8** (Cancelled)

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**Claim 9** (Currently Amended) The apparatus of claim & 13 wherein the volume of the calibrated sample section is in a range of 0.05  $\mu$ l to 30 $\mu$ l.

**Claim 10** (Currently Amended) The apparatus of claim & 13 wherein there are at least two calibrated channel sections arranged in series and delimited by fluidic micro connections.

**Claim 11** (Currently Amended) The apparatus of claim & 13 wherein there are at least two calibrated channel sections arranged in parallel and delimited independently of one another by fluidic micro connections.

**Claim 12** (Currently Amended) The apparatus of claim & 13 wherein the fluidic micro connections are configured as valves, micromixers or micropumps.

**Claim 13** (New) Minaturized analytical system comprising an apparatus for delivering defined sample volumes greater than 0.01 $\mu$ l, the apparatus including a channel system having at least one sample securing section defining said sample volume having two ends both of which have at least one openable and closable fluidic connection, the fluid connections enabling filling the sample receiving channel section with the sample volume without introducing relevant amounts of the sample into other portions of the channel system of the miniaturized analytical system.

**Claim 14** (New) A miniaturized apparatus for delivering sample volumes in the range of 0.01 $\mu$ l to 100  $\mu$ l, the apparatus comprising:

a channel system with at least one sample receiving channel section defining said sample volumes, the channel section having two ends both of which have at least one openable and closable fluidic connection;

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said fluid connections enabling filling of the channel section with said sample volume without introducing relevant amounts of the sample into other portions of the channel system connected to the sample section.

**Claim 15** (New) A method of isolating a fluid sample having a volume in the range of 0.01  $\mu$ l to 100 $\mu$ l from a supply of fluid, the method comprising:

replacing a buffer liquid with the fluid sample of said volume from a sample isolating section, which sample isolating section is a portion of a miniaturized channel system, while maintaining buffer liquid in other portions of the miniaturized channel system that are in fluid communication with the sample isolating section.

**Claim 16** (New) The method of claim 15 wherein replacing the buffer liquid is accomplished through displacing the buffer liquid by introducing the fluid sample to the miniaturized channel system.

**Claim 17** (New) The method of claim 21 wherein the fluid to be sampled is supplied at a pressure greater than pressure exerted by the buffer liquid upstream of the sample fluid.

**Claim 18** (New) The method of claim 21 wherein the buffer liquid is exhausted from the miniaturized channel system through a fluidic connection disposed at an end of the sample isolation section upstream from one another fluidic connection located downstream of the sample isolation section through which the sample fluid is introduced.